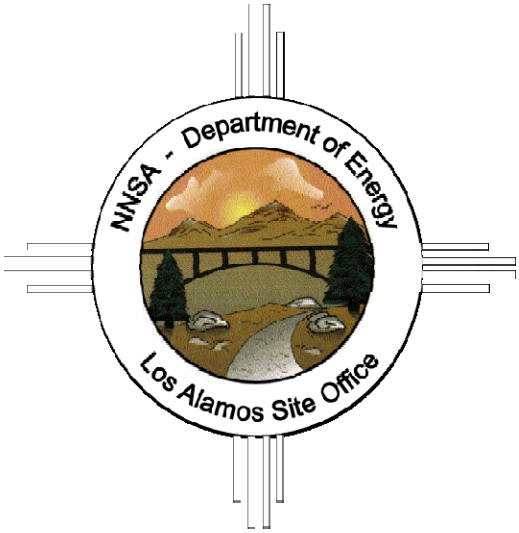
1999 Site-Wide Environmental Impact Statement Mitigation Action Plan
Final Annual Report



Department of Energy
National Nuclear Security Administration
Los Alamos Site Office

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ACRONYMS USED IN THIS REPORT

ALARA	As Low As Reasonably Achievable
BRMP	Biological Resources Management Plan
CRMP	Cultural Resources Management Plan
CRT	Cultural Resources Team
CY	Calendar Year
DARHT	Dual-Axis Radiographic Hydrodynamic Test Facility
DD&D	Decontamination, Demolition, and Decommissioning
DOE	Department of Energy
DOE/HQ	Department of Energy Headquarters
EMS	Environmental Management System
ENV-RRO	Environmental Protection Division, Risk Reduction Office
ESR	Environmental Surveillance Report
FY	Fiscal Year
HMP	Threatened and Endangered Species Habitat Management Plan
ICRMP	Integrated Cultural Resources Management Plan
IRMP	Integrated Resources Management Plan
ISM	Integrated Safety Management
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security
LANSCE	Los Alamos Neutron Science Center
LASO	Los Alamos Site Office
LLW	Low Level Waste
MAP	Mitigation Action Plan
MLLW	Mixed Low Level Waste
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NMED	New Mexico Environment Department
NMSHPO	New Mexico State Historic Preservation Office
NNSA	National Nuclear Security Administration
OSR	Off-Site Source Recovery Program
PMRT	Planning, Management and Review Team
PNM	Public Service Company of New Mexico
PR-ID	Projects and requirements identification process
P2	Pollution Prevention
RLWTF	Radioactive Liquid Waste Treatment Facility
ROD	Record of Decision
SWEIS	Site-Wide Environmental Impact Statement
TA	Technical Area
TCP	Traditional Cultural Property
TRU	Transuranic Waste
WFMP	Wildland Fire Management Plan

1.0 INTRODUCTION

The National Environmental Policy Act (NEPA) is our basic national charter for protection of the environment. NEPA requires that environmental information is available to public officials and citizens, and requires federal agencies such as the Department of Energy (DOE) to prepare environmental impact statements (EIS) for the operation of sites such as the Los Alamos National Laboratory. This Mitigation Action Plan (MAP) Annual Report has been prepared by the U.S. Department of Energy Los Alamos Site Office (LASO) as required under the Record of Decision (ROD) for the Site-Wide Environmental Impact Statement (SWEIS) for Continued Operation of the Los Alamos National Laboratory (LANL) (DOE/EIS-0238) (DOE 1999a). This annual report is available upon request to the public as part of the implementation of the SWEIS MAP (DOE 1999b). This MAP Annual Report will be the last one prepared for DOE/EIS-0238 because the DOE will issue a new SWEIS in 2008 (DOE/EIS-0380). The new SWEIS will generate new RODs and MAPs. Implementation and tracking of the new MAP(s) would be expected to begin in 2009.

1.1 Background

The DOE issued the LANL SWEIS in January 1999. The SWEIS identified potential impacts resulting from the four alternatives evaluated and discussed measures that DOE considered for the mitigation of these potential adverse effects.

The Acting Assistant Secretary for Defense Programs signed the ROD for the level of operation of the LANL as analyzed in the SWEIS on September 13, 1999. The ROD states that the DOE has decided to implement the Expanded Operations Alternative as the Preferred Alternative, with certain limitations. This alternative provides for expanded operations at LANL, as the need arises, to increase the level of existing operations to the highest reasonably foreseeable levels and to fully implement the mission elements assigned to LANL (DOE 1999a).

Activities undertaken at LANL are performed in compliance with applicable regulations, DOE Orders, and contractual requirements. Many laws and regulations pertaining to operating Federal facilities are in place to protect human health and the environment. These regulatory controls or similar ones will continue to apply to LANL operations. Compliance with these requirements mitigates the potentially adverse impacts of LANL operations to the public, workers, and the environment.

The contract between DOE and its management and operating contractor, Los Alamos National Security, LLC (LANS) includes regulations applicable to LANL operations. These regulations also mitigate the potential for adverse impacts. For example, the application of DOE design standards results in facility designs for modern nuclear facilities that reduce the potential for catastrophic releases from these facilities in the event of earthquakes, high winds, or other natural phenomena. Application of occupational safety and health regulations (29 CFR 1900, et seq.) and other standards

promulgated by the American National Standards Institute, the U.S. Department of Defense, and DOE, as well as the use of other life safety and fire safety codes and manuals, limit worker exposures to workplace hazards, thus reducing potential adverse worker health effects.

1.2 MAP Purpose, Function, and Organization

The SWEIS MAP is a DOE management document that identifies actions for improving operations as well as specific mitigation measures for the potential environmental impacts of operating LANL at the level chosen in the ROD. The SWEIS included a discussion of existing programs, plans, and controls built into the operations at LANL that function as mitigation measures. These programs, plans and controls included operating within applicable regulations, DOE Orders, contractual requirements, and approved policies and procedures. The DOE has undertaken additional measures to further mitigate the impacts of continuing to operate LANL at the levels outlined in the SWEIS ROD. The MAP was prepared to address the mitigation commitments expressed in the ROD in accordance with DOE's implementing procedures for the National Environmental Policy Act, 10 CFR §1021.331.

The mitigation measures presented in the SWEIS MAP are of two types:
(1) Enhancement of existing programs that will improve operational efficiency and minimize future potential impacts from LANL operations (DOE 1999b), and
(2) Specific measures intended to further minimize the impacts identified in the SWEIS as a possible result of operating LANL in the future at levels outlined in the ROD. These are covered in Sections 4.0 and 5.0 respectively.

1.3 Relationship of the MAP and the SWEIS Yearbooks

Together, the MAP annual report and the SWEIS Yearbook can be used to evaluate how LANL is doing with regard to NEPA compliance. The SWEIS MAP set forth specific mitigation actions for LANL, and the MAP annual report provides a status report on the progress of these actions. The SWEIS also provided overall operating levels in terms of resource use (e.g. gallons of water, megawatts of electrical power, tons of waste, amounts of chemicals used, etc). The SWEIS Yearbook is an annual report comparing the data and impacts projected in the 1999 SWEIS to actual data collected in a given year. The Yearbook demonstrates whether current operations are within the SWEIS operating envelope. The goal is to provide NNSA/DOE with information to evaluate the adequacy of the SWEIS and to provide LANL management and the public with a comprehensive view of the annual operation and environmental impacts of LANL.

Overall, the 2006 operations data indicate that LANL was operating within the SWEIS envelope and had not reached the operating levels detailed in the Expanded Operations Alternative in the ROD. LANL operations data mostly fell within projections. Data for 2006 (LANL 2007b) indicate that positive impacts (such as socioeconomics) were greater

than SWEIS ROD projections, while negative impacts, such as radioactive air emissions and land disturbance, were within the SWEIS operating envelope.

The LANL workforce has been above ROD projections since 1997. The 12,764 employees at the end of CY 2006 represent 1,413 more employees than projected and reflect a decrease of 740 employees from CY 2005.

The 2007 SWEIS Yearbook will be published in 2008 as a special edition that will summarize the data collected from calendar years 1998 through 2007. It will contain some additional text and tabular summaries as well as a more detailed trend analysis. With the issuance of the new 2008 SWEIS Record of Decision (ROD) tentatively scheduled for April 2008, the 2007 SWEIS Yearbook will close out the 1999 SWEIS.

2.0 SWEIS MAP IMPLEMENTATION, TRACKING AND CLOSURE

The SWEIS MAP implementation process involves DOE and several LANL organizations. The implementation process includes mitigation action management (task scoping and funding allocation), tracking, technical implementation, annual reporting, and mitigation action closure. The elements of implementation are coordinated through a formal project management system.

2.1 Roles and Responsibilities

DOE LASO is the federal agency responsible for implementing and tracking the SWEIS MAP. LASO delegated daily coordination and management of MAP activities to LANL in January 2002. The Risk Reduction Office in the Environmental Protection Division (ENV-RRO) is the LANL point of contact for technical issues regarding the scope and schedule of individual mitigation measures. ENV-RRO coordinates internal LANL projects and activities that were selected to fulfill the individual mitigation measures identified in the MAP. These projects and activities were assigned to LANL organizations that had primary institutional responsibility for operations that the mitigation actions were designed to address.

2.2 Mitigation Tracking

Throughout this MAP annual report various items are noted as being completed by a certain month and year. This is simply an annotated means of indicating progress. The rest of the story can be obtained in the MAP tracking log maintained for LASO by ENV-RRO. Using a standard project management system, ENV-RRO tracks the scope, schedule, interim milestones, deliverables, and closure for all mitigation measures. The MAP tracking log is available for review in the LANL Risk Reduction Office library and from LASO. It provides an up-to-date record of progress on meeting milestones and is a key component of this MAP Annual Report.

2.3 MAP Duration and Mitigation Closure

The implementation of the SWEIS MAP was initiated in October 1999 with the issuance of the ROD and associated MAP. The duration for specific mitigation measures is identified in the MAP but has also been included in the MAP tracking log in Section 3.0. The implementation of the SWEIS MAP and all associated mitigation actions were to be completed at the end of calendar year 2005 (DOE 1999b).

As individual projects and activities that address specific mitigation measures are completed, ENV-RRO briefs LASO and provides formal documentation and rationale for recommending mitigation action closure. Final closure of mitigation actions is authorized by LASO and reported in the MAP Annual Report. This will be the final MAP associated with the 1999 SWEIS. All mitigation actions described in this report have been completed. The new SWEIS will also have a MAP and reports such as this will be prepared as set forth in the contract between LANS and DOE/NNSA.

2.4 Mitigation Measures Schedule and Status

On August 17, 2000, the schedules of some of the mitigation actions were modified from what was reported in the original SWEIS MAP. These modifications were necessary as a result of the impact the Cerro Grande Fire and emergency rehabilitation measures had on institutional operations at LANL. LANL provided LASO with a memorandum and modified MAP tracking log (LANL 2000). The changes have not impacted the overall schedule for accomplishment of MAP implementation.

The current schedule and status of all MAP mitigation actions are summarized in the MAP tracking log found in Appendix A. This tracking log only presents key MAP task and milestone information and does not include detailed information regarding LANL-specific activities that support the completion of these key tasks and milestones. The MAP tracking log includes the following information: task name, start and finish dates, tracking and working status, and responsible organization. Task schedule modifications resulting from the Cerro Grande Fire, Laboratory Implementation Requirement holds, and Memorandum of Agreement (MOA) schedules are identified in the tracking status column. Detailed task and milestone information may be obtained by contacting LASO.

3.0 LANL WORK POLICIES, PROCEDURES AND PROGRAMS

DOE, NNSA, and LANS also have instituted policies, procedures, and programs applicable to work conducted at LANL to mitigate potentially adverse effects of operations. These policies, procedures, and programs include, but are not limited to, the following:

- Policies that ensure environmental requirements and issues are identified and

reviewed early in the planning process.

- Procedures that institute integrated safety management to control work.

- Policies regarding the knowledge, skills, and abilities of personnel assigned to perform hazardous work (including required training).

- Protocols with other entities (such as Accords with the Pueblos located nearest to LANL), regarding consultations and other discussions regarding LANL activities.

- Policies and procedures regarding the stoppage and restart of work, similar in effect to work controls; when situations occur that impose unexpected hazards or reveal unexpected resources.

- Programs and projects at LANL that increase the level of knowledge regarding the environment around LANL, the health of LANL workers, the health of the public, and the effects of LANL operations on these elements, as well as to avoid or reduce impacts and to remediate contamination from previous LANL activities.

There are also policies, procedures, programs, plans, and projects to:
(1) reduce potentially adverse impacts by providing a heightened understanding of the resources that could be impacted;
(2) avoid impacts where mechanisms for impacts to specific resources are known and avoidable;
(3) provide early identification of impacts, to enable elimination or mitigation of the impacts;
(4) reduce ongoing impacts; and
(5) provide beneficial management opportunities to avoid impacts to natural, cultural, and sensitive resources. Examples of these include the following:

- The Laboratory's ISO 14001 Environmental Management System (EMS), implemented to meet DOE Order 450.1, Rev. 3, requires an evaluation of environmental aspects and impacts and a commitment to continuous environmental improvement. The Laboratory's EMS and NEPA functions (including the SWEIS) are coordinated from the Risk Reduction Office in the Environmental Protection Division

- LANL implementing policy and procedure (IPP 400.1; LANL 2007a) requires an environmental review for all new and modified work at the Laboratory.

- LANL environmental surveillance and compliance activities include monitoring permits and environmental management requirements. This includes evaluations of samples from various environmental media for radioactive materials and other hazardous materials both locally and regionally. The data generated are collected routinely, reported annually to the public in the Environmental Surveillance

Report (ESR), and analyzed to determine regulatory compliance and environmental trends over time.

- The Threatened and Endangered Species Habitat Management Plan (HMP) (LANL 1998) provides long-range planning information for future LANL projects and protects the habitats of federally listed species.

- The Cultural Resources Management Plan (CRMP) (LANL 2004) has undergone public review and is implemented through a programmatic agreement between DOE, the New Mexico State Historic Preservation Office, and the Advisory Council on Historic Preservation. The CRMP is discussed below.

- Waste minimization and pollution prevention efforts at LANL are coordinated by the Pollution Prevention Program, which works to reduce generation of waste and to some extent, effluents and emissions from facilities.

- Studies of public and worker health in and around LANL have been conducted (some by DOE and some by other agencies) to assess both human health in the region and the potential for adverse human health effects due to LANL operations.

- The Health, Safety, and Radiation Protection Program is based on the As Low As Reasonably Achievable (ALARA) (10 CFR Part 835) principle for minimizing radiation doses and releases of radioactive materials by employing all reasonable methods. ALARA is a regulatory requirement of DOE radiation safety programs. The Health, Safety, and Radiation Protection Program also addresses possible impacts resulting from working with chemicals and biohazardous materials.

- Groundwater protection activities assess current groundwater conditions to monitor and protect groundwater. A Hydrogeologic Work Plan (LANL 2001) supplements and verifies existing information on LANL's environmental setting and collects analytical data on groundwater contamination.

- The Safeguards and Security Program helps to restrict unauthorized access to areas of LANL that have a high potential for impacts to human health and the environment. Such access restrictions limit the potential for intentional or inadvertent actions that could result in environmental or human health effects.

- LANL's Emergency Management and Response Program effectively combines Federal and local emergency response capabilities and provides planning, preparedness, and response capabilities that can aid in containing and remediating the effects of accidents or adverse operational impacts.

- LANL's Fire Protection Program ensures that personnel and property are adequately protected against fire or related incidents, including fire protection and life safety.

- An Interagency Wildfire Management Team coordinates activities related to reducing regional wildland fire danger. On site, LANL is implementing actions around individual facilities that have moderate or higher vulnerability to wildfire.

- Environmental restoration work (which includes decontamination, demolition, and decommissioning [DD&D] activities) assesses and remediates contaminated sites that either were or still are under LANL control. This work serves an important role in reducing the potential for future impacts to human health and the environment due to legacy contaminants in the environment. Contaminant risks at LANL are largely mitigated by this ongoing work.

4.0 ENHANCEMENT OF EXISTING PROGRAMS AT LANL

4.1 Mitigation Action for Cultural Resources

Objective: Manage, preserve and protect cultural resources using an integrated approach.

Context: Federal Law requires that all Federal Agencies comply with the National Historic Preservation Act, Federal regulations, Executive Orders, standards and other laws that mandate consideration of the effects of Federal actions on historic properties. There are a significant quantity and diversity of archaeological sites at LANL. In 1999, approximately 60 percent of LANL lands had been surveyed for archaeological sites and approximately 1,600 sites had been identified in this process. Less attention had been given to historic buildings and structures dating back to the Manhattan period. The need for a comprehensive, integrated approach to cultural resource management was recognized.

Background: A current discussion of cultural resources background issues can be found in the 2006 SWEIS Yearbook, Section 3.9.

During FY 2006, sites that had been excavated since the 1950s were removed from the overall site count numbers. Thus, the number of recorded sites is less than in reports from previous years. More than 85 percent of these archaeological sites date from the 14th and15th centuries. LANL continues to evaluate buildings and structures from the Manhattan Project and the Early Cold War period (1943–1963) for eligibility to the National Register of Historic Places (NRHP). Within LANL's limited access boundaries, there are ancestral villages, shrines, petroglyphs, sacred springs, trails, and traditional use areas that could be identified by Pueblo and Athabascan communities as traditional cultural properties (TCPs).

The SWEIS ROD lists 2,319 historic (AD 1600 to the present) cultural resource sites, including sites dating from the Historic Pueblo, US Territorial, Statehood, Homestead, Manhattan Project, and Cold War periods. Many of the 2,319 potential historic cultural resources are temporary and modular properties, sheds, and utility features associated

with the Manhattan Project and Cold War periods. Since the SWEIS ROD was issued, these types of properties have been removed from the count of historic properties because they are exempt from review under the terms of the Programmatic Agreement (MOU DE-GM32-00AL77152) between the NNSA/LASO, the New Mexico State Historic Preservation Office (NMSHPO), and the Advisory Council on Historic Preservation. The same property type exemption language exists in the current LANL Cultural Resources Management Plan ("A Plan for the Management of the Cultural Heritage at Los Alamos National Laboratory" LA-UR-04-8964) which is implemented under the Programmatic Agreement ("Concerning Management of the Historic Properties of Los Alamos National Laboratory, New Mexico" LA-UR-06-1875). Additionally, the Cultural Resources Team (CRT) has evaluated many Manhattan Project and Early Cold War properties (AD 1942–1963) and those properties built after 1963 that potentially have historical significance, reducing the total number of potential historic cultural resource sites to 756. Most buildings built after 1963 are being evaluated on a case-by-case basis as projects arise that have the potential to impact the properties. Therefore, additional buildings may be added to the list of historic properties in the future.

Mitigation Action Commitment and Status: There were nine cultural resource mitigation action items listed in the 1999 SWEIS MAP:

- **LANL to complete verification of past cultural resource surveys and plan for program of field verification** – *completed January 2000.*

- **LANL to prepare and submit to DOE an annotated outline for the Integrated Cultural Resource Management Plan (now called CRMP)** – *completed June 2000.*

- **LANL to complete a draft CRMP** – *completed December 2004.*

- **LANL to complete archaeological resources overview and research design for evaluation of site significance** – *completed September 2005.*

- **LANL to complete definition of periods of significance for historic buildings and identification of buildings requiring evaluation** – *completed September 2005.*

- **LANL to complete and begin implementation of Standard Operating Procedures for cultural resource management** – *completed September 2005*.

- **LANL to complete Final CRMP** – *The Cultural Resources Management Plan was finalized and approved by LANL and DOE/NNSA in September 2005.*

- **LANL to begin implementation of CRMP** –*The Cultural Resources Management Plan was implemented, under limited funding, during 2006. During 2006, implementing activities included documentation of individual properties*

within the proposed Project Y Manhattan Project National Historic Landmark for use in developing a forthcoming landmark nomination package for the National Park Service.

- **DOE to negotiate Programmatic Agreement with the State Historic Preservation Office to streamline the compliance process**. - *A Programmatic Agreement implementing the CRMP was signed on June 15, 2006, by DOE/NNSA, the New Mexico SHPO, and the Advisory Council on Historic Preservation. The CRMP management plan will be updated every five years after issuance.*

4.2 Mitigation Action for Traditional Cultural Properties

Objective: Protection of Traditional Cultural Properties.

Context: Within LANL's limited access boundaries, there are ancestral villages, shrines, petroglyphs, sacred springs, trails and traditional use areas that could be identified by Pueblo and Athabascan communities as TCPs. DOE is committed through ongoing consultation processes with affected Native American Tribes to protect cultural resources and sites of cultural, historic or religious importance to the tribes. The Pueblos of San Ildefonso, Santa Clara, Cochiti, Jemez, and Acoma and the Mescalero Apache Tribe notified the DOE that they wished to be consulted about TCPs.

Background: A current discussion of traditional cultural properties issues can be found in the 2006 SWEIS Yearbook, Section 3.9.

The American Indian Religious Freedom Act of 1978 (Public Law 95-341) stipulates that it is Federal policy to protect and preserve the right of American Indians to practice their traditional religions (42 USC 1996). Tribal groups must receive notification of possible alteration of traditional and sacred places. In FY 2006, The Governors of San Ildefonso, Santa Clara, Cochiti, Jemez, and Acoma Pueblos and the President of the Mescalero Apache Tribe were requested to identify any traditional cultural properties that could be affected by three proposed actions.

The Native American Graves Protection and Repatriation Act of 1990 (Public Law 101-601) states that if burials or cultural objects are inadvertently disturbed by Federal activities, work must stop in that location for 30 days, and the closest lineal descendant must be consulted for disposition of the remains (25 USC 1996). No discoveries of burials or cultural objects occurred in FY 2006 from Federal undertakings.

The Archaeological Resources Protection Act of 1979 (Public Law 96-95) provides protection of cultural resources and sets penalties for their damage or removal from Federal land without a permit (16 USC 1996). No violations of this Act were recorded on DOE/NNSA land in FY 2006. During FY 2006, the long-term monitoring program to assess the impact of LANL mission activities on cultural resources at the ancestral pueblo of Nake'muu was completed as part of the *Dual-Axis Radiographic Hydrodynamic Test (DARHT) Facility Mitigation Action Plan*. LANL has continued to assist DOE/NNSA in formal and informal meetings with the Pueblos of San Ildefonso and Santa Clara.

Mitigation Action Commitment and Status: There were eight cultural resource mitigation action items listed in the 1999 SWEIS MAP, including seven items in the strategy for consultation and coordination to provide protection for traditional cultural properties and sacred sites:

- **LANL to identify and DOE to consult with culturally affiliated Native American Tribes and Organizations** – *Initially completed October 1999 but ongoing process.*

- **LANL to develop and submit to DOE an annotated outline of a strategy for consultation and coordination** – *completed December 1999.*

- **LANL to prepare and submit to DOE for review a draft strategy for consultation and coordination** – *completed June 2000.*

- **DOE to consult with culturally affiliate Native American Tribes and Organizations regarding strategy** – *completed August 2000.*

- **LANL to submit to DOE a draft Memorandum of Agreement with culturally affiliated Native American Tribes and Organizations** – *will be conducted on a case by case basis.*

- **DOE to complete Memorandum of Agreement with culturally affiliated Native American Tribes and Organizations** – *will be conducted on a case by case basis.*

- **LANL to prepare a final strategy, including appropriate mitigation measures** – *consultations with tribes will be ongoing and conducted on a case by case basis.*

- **LANL to negotiate access agreements, as needed** – *Initially completed August 2002. This is an ongoing process with tribes.*

All tasks related to TCPs have been indefinitely delayed because of tribal sensitivity over sacred sites. DOE and LANL have made good faith effort on consultations; however, this is and will remain a difficult process. An administrative record is being maintained to demonstrate this good faith effort as required by law. The administrative record for the TCP consultations is a component of the Cultural Resources Team Administrative record.

4.3 Mitigation Action for Natural Resources Management

Objective: Manage natural resources in a fashion that directly supports DOE's Land and Facility Use Planning Policy by integrating mission, economic, ecological, social, and cultural factors in a comprehensive process for guiding land and facility use decisions at LANL.

Context: By 1999, the concept of integrated natural resource management had become an increasingly important factor in planning and implementing the DOE mission at LANL. In 1994, the Secretary of Energy issued a Departmental policy designed to strengthen and formalize DOE's role in the stewardship of DOE lands. The DOE's Land and Facility Use Planning Policy states:

> "It is the Department of Energy Policy to manage all of its lands and facilities as valuable natural resources. Our stewardship will be based on the principles of ecosystem management and sustainable development. We will integrate mission, economic, ecological, social, and cultural factors in a comprehensive plan for each site that will guide land and facility use decisions. Each comprehensive plan for each site will consider the site's larger regional context and be developed with stakeholder participation. This policy will result in land and facility uses which support the Department's critical missions stimulate the economy and protect the environment."

The development and implementation of a comprehensive natural resources management plan at LANL would directly support DOE's policy to manage all of its land and facilities as valuable national resources. Through the implementation of such a plan, DOE would improve the agency's role as a steward of natural resources by integrating its mission and operations with biological, water and air resources, using a comprehensive process that would guide land and facility use decisions. This process would furthermore consider the site's larger regional context and be developed in consultation with regional land management agencies and owners (Bandelier National Monument, Santa Fe National Forest, and Native American Pueblos, State agencies, and the U.S. Fish and Wildlife Service). This cooperative effort would ensure a consistent, integrated, and sustainable approach to regional natural resources management.

Background: A current discussion of natural resources background issues can be found in the 2006 SWEIS Yearbook, Section 3.10.

The SWEIS ROD projected no significant adverse impacts to biological resources, ecological processes, or biodiversity (including threatened and endangered species) resulting from LANL operations. Data collected for CY 2006 support this projection. These data are reported in the 2006 Environmental Surveillance Report issued (LANL 2007d). LANL's Threatened and Endangered Species Habitat Management Plan (LANL 1998) received US Fish and Wildlife Service concurrence on February 12, 1999. The plan is used in project reviews and to provide guidelines to project managers for assessing and reducing potential impacts to federally listed threatened and endangered species, including the Mexican spotted owl, southwestern willow flycatcher, and bald eagle.

In CY 2006, LANL continued conducting annual surveys for Mexican spotted owls, southwestern willow flycatchers, and bald eagles. The LANL Biological Resources Compliance and Monitoring Team provided guidance for avoiding human disturbance

and habitat alteration impacts on federally-listed species to projects and operations through excavation permit reviews and the Projects, Requirements Identification process (PR-ID).

Mitigation Action Commitment and Status: There was one natural resource management mitigation action item listed in the 1999 SWEIS MAP, and it had eight components:

- **DOE will complete and implement an integrated Natural Resources Management Plan (NRMP) with biological, soils, water, and air resource elements that will integrate the principles of ecosystem management into the critical missions of LANL.** *The milestone dates for some of these tasks was moved forward to accommodate complications with the Cerro Grande Fire. Cultural resource issues were integrated into the NRMP and the document name was changed to the Integrated Resources Management Plan (IRMP).*

    - **Establish a tripartite planning, management and review team (PMRT) representing the Los Alamos Area Office, Albuquerque Operations Office, and Los Alamos National Laboratory** – *completed October 1999.*

    - **LANL to prepare and submit to the PMRT a Work Plan for the development of the NRMP, including identification of specific studies and tasks** – *completed December 1999.*

    - **LANL to submit a Preliminary Draft NRMP to the PMRT** – *completed December 2000.*

    - **DOE to coordinate formal stakeholder coordination/review of Preliminary Draft NRMP** – *completed February 2001.*

    - **LANL to revise Draft NRMP to reflect comments received by stakeholders and submit to PMRT** – *milestone eliminated due to lack of stakeholder comments.*

    - **DOE coordinates formal stakeholder coordination/review of Revised Draft NRMP** – *milestone eliminated due to lack of stakeholder comments.*

    - **LANL to submit Final IRMP to PMRT, including implementation strategy** – *completed September 2002.*

    - **LANL to begin implementation of IRMP** – *completed October 2002.*

5.0 SPECIFIC SWEIS MITIGATION MEASURES AT LANL

5.1 Mitigation Action for Electrical Power

Objective: Manage electric power demands to prevent periods of brownouts by adjusting to the limitations of available power until a solution for a long-term increase in the power supply is in place.

Context: The SWEIS recognized the need for an increase in electrical power supply and reliability under the preferred alternative as well as other alternatives analyzed. The impact analyses emphasized the severity of these issues and consequences if they were not resolved, e.g. brownouts. Solutions to power supply issues were essential to mitigate the effects of power demand under all alternatives. An operating plan for improved load monitoring, equipment upgrades, and optimizations of some available power sources was discussed. DOE also contemplated (1) limiting operation of large users of electricity to periods of low demand, (2) contractual mechanisms to bring additional electric power to the region, and (3) options for incremental resources such as on-site cogeneration. DOE and other users of electric power in the area have been working with suppliers to resolve these foreseeable power issues.

In 2005, in response to the Presidential Directive on Energy and Fuel Conservation at DOE Federal Facilities, an Energy and Fuel Conservation Working Group was organized as part of the LANL EMS. The working group represents the spectrum of energy and fuel-related organizations at the Laboratory (e.g., computer procurement specialists, vehicle fleet managers, electric and steam managers). The group generated an environmental action plan with proactive options to improve performance in energy and fuel conservation. The Laboratory has also implemented the Energy Policy Act of 2005, which requires federal agencies to reduce energy intensity every year in their buildings on a BTU per gross square foot basis, from a FY'03 baseline; culminating in a 30% reduction by FY 2015.

Background: A current discussion of electrical power background issues can be found in the 2006 SWEIS Yearbook, Section 3.4.2.

LANL's electrical energy use remains below projections in the SWEIS ROD. The ROD projected peak demand to be 113 megawatts (with 63 megawatts being used by the Los Alamos Neutron Science Center at TA-53 (LANSCE) and about 50 megawatts being used by the rest of LANL. Since 1998, LANL's maximum peak demand was 85 megawatts. In addition, the ROD projected annual use to be 782,000 megawatt-hours with 437,000 megawatt-hours being used by LANSCE and about 345,000 megawatt-hours being used by the rest of LANL. Actual use has fallen below these values, and the projected periods of brownouts have not occurred. However, on a regional basis, failures in the PNM system have caused blackouts in northern New Mexico and elsewhere. LANL has improved on-site electrical power supply reliability and redundancy by installing a new substation at TA-71 and constructing a 20MW gas turbine in TA-03.

Mitigation Action Commitment and Status: There were three action items listed in the 1999 SWEIS MAP:

- **LANL to provide bulk electrical forecasts for the next 10 years to DOE.** *Forecasts were approved by LANL's Program Director for Institutional Facilities and Construction and transmitted to DOE in March 1999. Forecasts are updated and provided annually to the DOE/Los Alamos County power pool.*

- **Secure additional electrical services:** *An Options Study was completed by DOE/AL and LANL and transmitted to DOE/HQ – completed July 1999.*

  A Utility Procurement Plan was completed by DOE/AL and transmitted to DOE/HQ – completed July 1999.

  DOE approval and implementation of the Utility Procurement Plan – completed November 1999 and updated annually. Right of way negotiations continue for bringing redundant power into Los Alamos from the PNM Northern Substation.

- **Review and revise the C10 Electrical Load Curtailment Plan every five years.**

  The initial review and revision focused on a power scheduling plan for a fixed consumption level. The 1995 C10 Plan was reviewed by LANL staff in January 2000, and it was determined that it correctly identified a priority order for load curtailment/reduction. The C10 Plan was reviewed by LANL again in 2006. Review will be ongoing, and adjustments will be based upon the load forecast and LANL critical facilities requirements.

5.2 Mitigation Action for Water Supply and Demand

Objective: Manage water demand to prevent exceedances of DOE water rights.

Context: Prior to September 8, 1998, DOE supplied all potable water for LANL, Bandelier National Monument, and Los Alamos County, including the towns of Los Alamos and White Rock. This water was obtained from DOE's groundwater right to withdraw 5,541.3 acre-feet/year or about 1,806 million gallons of water per year from the main aquifer. On September 8, 1998, DOE leased these water rights to Los Alamos County. This three-year lease also included DOE's contracted annual right, obtained in 1976, to 1,200 acre-feet/year of San Juan-Chama Transmountain Diversion Project water. The DOE-operated water supply system was conveyed to the County in 1991 along with 70 percent of the water rights while retaining the lease for the remaining 30 percent. The San Juan-Chama rights were transferred in their entirety to the County. The agreement between DOE and the County did not preclude provision of additional waters in excess of the 30 percent agreement, if available. However, the agreement also stated that should

the County be unable to provide water to its customers, the County was entitled to reduce water services to DOE in an amount equal to the water rights deficit.

Background: A current discussion of water supply and demand background issues can be found in the 2006 SWEIS Yearbook, Section 3.4.3.

LANL water use has been decreasing and is considerably less than the projected usage under the 1999 SWEIS Expanded Operations Alternative. LANL consumed about 346 million gallons during CY 2006, compared to the 759 million gallons per year projected consumption in the SWEIS ROD. This has been a trend since 1999; LANL water use has ranged between 60% and 76% of the projected consumption established in the contract for water procurement with Los Alamos County.

LANL has been implementing water conservation measures including an emphasis on zero-liquid discharge at outfalls. Overall LANL water use is tracked monthly. Major water users such as single-pass cooling towers have been replaced with more efficient ones in TA-3, 53 and 55. Meters have been installed when permanent buildings are constructed. There is a Supervisory Control and Data Acquisition/Equipment Surveillance System on the water distribution system that tracks usage and determines the specific water use for various applications. An annual leak detection survey identifies needed repairs across LANL, and portions of the over-60-year old distribution system have been replaced as problems arise. In remote areas, LANL is trying to automate the monitoring of the system to be more responsive during emergencies such as the Cerro Grande Fire.

Mitigation Action Commitment and Status: There were six action items listed in the 1999 SWEIS MAP:

- **LANL to establish an initial baseline of LANL's actual water usage** – *completed October 1999.*

- **LANL to develop and implement procedures to assure that all new projects will implement water conservation design and techniques** – *completed October 2000 and ongoing as part of project review.*

- **LANL to determine which equipment and facilities are major users of water and install water meters appropriately** – *completed January 2002 for existing facilities, but will continue as appropriate. Note: For this reason, this task is listed as "ongoing" in the tracking log summary in Appendix A.*

- **LANL to complete a water road map for water supply and demand at the Laboratory and update annually** – *completed October 2000 and ongoing.*

- **LANL will identify and repair major leaks (primarily fire hydrants)** – *completed December 2000 and ongoing.*

- **LANL to prepare and begin implementation of water conservation goals** – *implemented October 2001 and ongoing as part of project review and EMS.*

5.3 Mitigation Action for Waste Management

Objective: Reduce waste generation

Context: Because of the complex array of facilities and operations, LANL generates a wide variety of waste types including solids, liquids, semi-solids, and contained gases. These waste streams are variously regulated as solid, hazardous, LLW, TRU, or wastewater by a host of State and Federal regulations. Waste treatment, storage and disposal are central to all facilities and technical areas within LANL. The SWEIS provided projections of waste generation for all waste types. The LANL EMS includes objectives and targets for hazardous and radioactive waste reduction. Pollution prevention programs are also in place at LANL and have been successful in reducing overall LANL wastes requiring disposal by 30 percent over the last five years. DOE had set goals for the prevention of pollution through reduction in the volume of waste generated by routine operations and through affirmative procurement and recycling for all operations. The most immediate performance measure was the DOE pollution prevention goal of achieving a 50 percent reduction in routine hazardous waste by 1999, compared to 1993. Efforts to reduce waste generation are ongoing and continuous at LANL.

DOE proposed an 80 percent reduction goal for routine (not legacy clean up) hazardous, low-level, and mixed low-level wastes using the 1993 baseline, by the year 2005. In addition, the Laboratory has prepared an annual environmental stewardship, waste management, and pollution prevention consolidated roadmap that details the sources of waste generation and environmental releases and identifies the most cost effective actions to eliminate them. Volume forecasts are used to target new programs for waste reduction opportunities.

Background: A current discussion of waste management background issues can be found in the 2006 SWEIS Yearbook, Section 3.3.

Waste quantities from 2006 LANL operations were below SWEIS ROD projections for all waste types. Quantities of wastes generated in 2006 ranged from approximately 5 percent of the mixed low level waste (MLLW) projection to about 79 percent of the low level waste (LLW) projection. Wastes have been generated at levels below quantities projected by the SWEIS ROD with the exception of the ERS Program - due to increased activities associated with the New Mexico Environment Department (NMED) Consent Order. For three of the last seven years (1999–2001), ERS Program wastes have been generated at levels at least seven times the SWEIS ROD projection. These wastes result from exhumation of materials placed into the environment during the early history of LANL and thus differ from the newly created wastes from routine operations. ERS

Program wastes are typically shipped off-site for disposal at EPA-certified waste treatment, storage, and disposal facilities and do not impact local environs.

Chemical waste generation in CY 2006 was about 52 percent of the chemical waste volumes projected by the SWEIS ROD. Generation in 2006 approximated 5 percent of the MLLW volumes projected by the SWEIS ROD. Environmental remediation activities produced only about 7 cubic meters of MLLW in 2006. As projected in the SWEIS, Transuranic (TRU) wastes are expected to be generated almost exclusively in four Key Facilities - the Plutonium Facility Complex, the CMR Building, the Radioactive Liquid Waste Treatment Facility (RLWTF), and the Solid Radioactive and Chemical Waste Facility, and through environmental remediation actions which did not produce any TRU wastes in 2006. TRU waste generated at the Non-Key Facilities during CY 2006 exceeded the SWEIS ROD projections as a result of the Offsite Source Recovery (OSR) Project. Because this waste comes through Shipping and Receiving, it is attributed to that location as the point of generation. LANL mixed TRU waste generation in 2006 was below the mixed TRU waste volume projected by the SWEIS ROD. In 2006, mixed TRU wastes were generated at only two facilities—the Plutonium Facility Complex and the Solid Radioactive and Chemical Waste Facility.

Mitigation Action Commitment and Status: There were six action items listed in the 1999 SWEIS MAP:

- **LANL to develop and implement procedures to assure that all new projects will implement waste minimization for TRU and Mixed TRU waste streams** – *completed October 2000.*

- **LANL to complete a plan for the integration of waste minimization into Integrated Safety Management (ISM).** - *The Laboratory developed an ISO 14001-based environmental management system which was appended to the ISM description document. The Environmental Management System has a strong prevention basis and LANL received ISO 14001 third party certification in 2006.*

- **LANL to develop a strategy for implementation of waste minimization and pollution prevention.** - *LANL published a Pollution Prevention (P2) Roadmap from 1999-2004. This document is responsive to the P2 and environmental efficiency goals issued by the Secretary of Energy on November 12, 1999; it also is certified to satisfy the waste minimization program documentation requirements of 40 CFR 264.73(b) (9) (Resource Conservation and Recovery Act). and is responsive to 58 CFR 102 (Guidance to Hazardous Waste Generators on the Elements of a Waste Minimization Program) and to Module VIII, Section B.1 of the Laboratory's Hazardous Waste Facility Permit. LANL published a Hazardous Waste Minimization Plan from 2004-2006 which covers efforts to minimize hazardous and mixed waste streams.*

- **LANL to begin implementation of the strategy for waste minimization and pollution prevention.** - *LANL achieved a 97 percent score on its pollution*

prevention index through 2005 which resulted in an overall rating of Outstanding. The index measures performance to the 2005 DOE Pollution Prevention goals during the 1993-2005 timeframe.

- **LANL to reduce waste from routine operations (not including legacy wastes) by 80 percent using 1993 as a baseline for the following waste types**
  - **Hazardous**
  - **Low Level Radioactive**
  - **Mixed Low Level Radioactive**

  – *met goal December 2005.*

- **LANL to recycle 40 percent of sanitary waste from routine operations** – *met goal December 2005.*

5.4 Mitigation Action for Wildfire

Objective: Reduce the threat of a major wildfire impacting facilities, operations, and the environment.

Context: In 1999, the LANL site and surrounding vicinity were generally forested areas with high fuel loading. The final SWEIS included an accident scenario from a wildfire that was initiated on land adjacent to LANL and spread to the LANL site. It concluded that a major fire was not only credible but also likely. The probability was in the order of 0.1 per year (1 in every 10 years). The SWEIS also concluded that the current and future risks of wildfires at LANL could only be mitigated through purposeful environmental intervention and active land management.

Background: A current discussion of forest and woodland conditions can be found in the 2006 SWEIS Yearbook, Section 3.10.1.

The forests and woodlands in the LANL area have undergone significant changes that began with the 2000 Cerro Grande Fire that will have an impact on forest health for decades to come. The fire reduced tree densities in the area, particularly on Forest Service land west of LANL. Subsequent wildfire risk reduction thinning activities reduced tree density and cover on much of the LANL forest and woodland. The total amount of thinning conducted since 2000 is approximately 9,150 acres. At the same time, the recent bark beetle infestation killed many of the remaining mature conifer trees throughout the Pajarito Plateau. LANL forests and woodlands are now much more open and will continue to be dominated by understory species for many years.

The MAP outlines specific actions to be undertaken for the enhancement of existing programs (MAP section 2.3); including the development and implementation of specific natural resource management plans, including a Wildfire Program. Additionally, the DOE Wildfire Management Policy (DOE 2003b) states that DOE sites are required to have wildland fire management plans in place that are consistent with the *2001 Federal Wildland Fire Management Policy and Implementing Actions*. In order to fulfill the intention of the MAP with regard to wildland fire management issues and DOE Order

450.1, a Wildland Fire Management Plan (WFMP) was prepared and approved by LANL and then submitted to DOE/NNSA where it was also approved in November 2007 (LANL 2007c).

Mitigation Action Commitment and Status: There were three wildfire mitigation action items listed in the 1999 SWEIS MAP:

- **LANL to develop preliminary program plans for comprehensive wildfire mitigation including construction and maintenance of strategic fire roads and fire breaks, creation of defensible space surrounding key facilities, and active forest management to reduce fuel loadings** – *completed December 1999.*

  Note: The Wildland Fire Management Plan was prepared by LANL during 2007, and was approved by the Los Alamos Site Office in November 2007.

- **DOE to complete a programmatic environmental assessment for proposed wildfire mitigation actions** – *completed August 2000.* (DOE-EA-1329 Environmental Assessment for the Wildfire Hazard Reduction and Forest Health Improvement Program at Los Alamos National Laboratory, Los Alamos, New Mexico, August 10, 2000.)

- **LANL to finish second phase of wildfire mitigation actions** – *this action was superseded by forest thinning in the aftermath of the Cerro Grande Fire. Over 9,000 acres of forest and woodland have been thinned to mitigate wildfire risk to the Laboratory.*

  Note: LANL also prepared a Prescribed Burn Plan for Potrillo and Fence Canyons at TA-36 in 2007. Prescribed burns will be used in the future in select locations for wildfire mitigation.

6.0 CONCLUSIONS

The implementation of the 1999 SWEIS MAP is complete with the exception of the Traditional Cultural Properties consultations. These tasks have been indefinitely delayed because of tribal sensitivity over sacred sites. DOE and LANL have made good faith efforts on consultations; however, this is and will remain an ongoing and challenging process rather than a discrete task. An administrative record is being maintained to demonstrate this good faith effort as required by law. The administrative record for the TCP consultations is a component of the Cultural Resources Team Administrative record. Ultimately, the responsibility for consultation rests with the DOE/NNSA because it is part of the roles of the national and tribal governments as established by federal law.

One task, "LANL to determine which equipment and facilities are major users of water and install water meters appropriately" was completed in January 2002 for existing facilities, but will continue as appropriate. For this reason, this task is listed as "ongoing" in the tracking log summary in Appendix A. The LANL EMS program has invested considerable effort into raising awareness of the opportunities for water conservation, waste minimization, and pollution prevention. There are several EMS initiatives now in place at LANL that will lower water and energy consumption.

The task entitled "DOE to negotiate Programmatic Agreement and Memorandum of Agreement with the State Historic Preservation Office to streamline the compliance process" is listed as "Moved" in the tracking log summary in Appendix A. There is no MOA associated with the CRMP and its implementation, only the Programmatic Agreement. The Programmatic Agreement was signed by DOE/LASO on April 20, 2006, and the New Mexico State Historic Preservation Officer on May 23, 2006.

While the milestones set forth in the 1999 SWEIS MAP have been completed there are certain environmental issues that will continue to be of concern at LANL. These issues include water conservation, waste reduction, electrical metering, and wildfire risk reduction.

This will be the final Annual Report for the 1999 SWEIS. A new SWEIS is scheduled to be released to the public in 2008, followed by issuance of new ROD(s). After these ROD(s) are issued by DOE/NNSA, a new MAP(s) will be written to address mitigations resulting from the new SWEIS and ROD(s).

7.0 CITATIONS

DOE 1999a: *Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory Record of Decision*, DOE/EIS-0238, DOE Albuquerque Field Operations Office, September 1999.

DOE 1999b: *Mitigation Action Plan for the Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory*, DOE/EIS-0238, DOE Albuquerque Field Operations Office, October 1999.

DOE 2003b: Memo from DOE Secretary to Undersecretary for Energy, Science, and Environment. Subject: *Department of Energy Wildland Fire Management Policy*. 2002-019296. February 24, 2003.

LANL1998: *Threatened and Endangered Species Habitat Management Plan,* Los Alamos National Laboratory report LA-CP-98-96, Los Alamos, NM.

LANL 2000: *Los Alamos National Laboratory Memorandum; MAP Tracking Log,* Environment, Safety, and Health Division – Site-Wide Issues Office, ESH-SWI: 00-041, August 2000.

LANL 2001: *Hydrogeologic Work Plan*, Los Alamos National Laboratory report LA-UR-01-6511.

LANL 2007a: *Environmental Protection*, Los Alamos National Laboratory Institutional Policy and Implementation Procedure IPP 400.1.

LANL 2007b: *SWEIS Yearbook 2006 - Comparison of 2006 Data Projections of the Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory,* (LA-UR-07-6628), Environmental Protection Division, Risk Reduction Office, ENV-RRO, October 2007.

LANL 2007c: *Los Alamos National Laboratory Wildland Fire Management Plan*, (LA-UR-07-6478), Infrastructure Planning Division, Integrated Land Management Team, IP-ILMT, September 2007.

LANL 2007d: *"Environmental Surveillance at Los Alamos during 2006,"* Los Alamos National Laboratory report LA-14341-ENV, Los Alamos, NM.

1999 SWEIS Mitigation Action Plan Tracking Log Summary

Task Name	*Start*	*End*	*Tracking Status*	*Working Status*	*Responsible Organization*[1]
MAP Tracking	3/31/99	9/30/07	Complete	Complete	LANL ESH-20[2]
1.0 Specific Measures	3/31/99	9/30/07	Complete	Complete	LANL ENV-RRO[2]
1.1 Electrical Power	3/31/99	1/31/00	Complete	Complete	LANL FWO[3]
1.1.1 10 Year Bulk Electrical Forecast to DOE	3/31/99	3/31/99	Complete	Complete	LANL FWO
1.1.2 Secure Additional Electrical Services	7/21/99	11/30/99	Complete	Complete	DOE LASO
1.1.2.1 Options Survey by DOE Albuquerque field office and LANL	7/30/99	7/30/99	Complete	Complete	LANL FWO
1.1.2.2 Utility Procurement Plan by DOE/AL	7/21/99	11/30/99	Complete	Complete	DOE LASO
1.1.3 Review and revise C10 plan every 5 years	11/29/99	1/31/00	Complete	Complete	LANL FWO
1.1.4 Power Scheduling Plan for Fixed Consumption Level	11/29/99	1/31/00	Complete	Complete	LANL SWI Office/FWO
1.2 Water Supply and Demand	11/29/99	10/31/01	Complete	Ongoing	LANL FWO
1.2.1 Establish Initial Baseline of LANL Water Usage	11/29/99	11/29/99	Complete	Complete	LANL FWO
1.2.2 Water Conservation Procedures for New Projects at LANL	11/29/99	10/31/00	Complete	Complete	LANL ESH-20
1.2.3 Install Water Meters for Major Users	11/29/99	01/01/02	Complete	Ongoing[4]	LANL FWO
1.2.4 Water Supply and Demand Roadmap	4/17/00	10/31/00	Complete	Complete	LANL E-ESO[5]

[1]Organizational names reflect 1999 organizational structure.
[2] Ecology Group, Environment, Safety and Health Division. In 2006, the ENV-RRO Environmental Protection Division, Risk Reduction Office and Ecology and Air Quality Group superseded the Ecology Group for the SWEIS and NEPA, and biological and cultural resources, respectively.
[3]FWO= Facilities and Waste Operations, subsequently reorganized into Maintenance and Site Services Division and the Engineering Services Division.
[4]Task as set out in the MAP was completed January 2002 for existing facilities, but will continue as appropriate. For this reason, this task is listed as "ongoing" in the tracking log summary.
[5]E-ESO= Environmental Science and Waste Technology – Environmental Stewardship Office.

1999 SWEIS Mitigation Action Plan Tracking Log Summary (Appendix A continued)

Task Name	*Start*	*End*	*Tracking Status*	*Working Status*	*Responsible Organization*
1.2.5 Identify and Repair Major Leaks	11/29/99	10/31/00	Complete	Institutional Program – Will continue as new leaks are identified	LANL FWO
1.2.6 Prepare and Implement Water Conservation Goals	10/31/00	10/31/01	Complete	Complete	LANL MSS U&I and EES/SE
1.3 Waste Management	11/29/99	12/30/05	Complete	Complete	LANL E-ESO
1.3.1 New Project Transuranic (TRU) and Mixed TRU Waste Minimization	11/29/99	10/31/00	Complete	Complete	LANL NW[1]
1.3.2 Integrate Waste Minimization into ISM	11/29/99	6/29/01	Complete	Complete	LANL E-ESO
1.3.3 Waste Min and Pollution Prevention Strategy	11/29/99	2/28/01	Complete	Complete	LANL E-ESO
1.3.4 Implement Strategy Waste Min and Pollution Prevention	3/1/01	12/31/01	Complete	Complete	LANL E-ESO
1.3.5 Reduce Routine Wastes (Hazardous, Low Level Waste [LLW], and Mixed LLW) by 80 Percent	11/29/99	12/30/05	Complete	Complete	LANL E-ESO
1.3.6 Recycle 40 Percent Routine Sanitary Wastes	11/29/99	12/30/05	Complete	Complete	LANL E-ESO

[1] NW = Nuclear Weapons Directorate

Mitigation Action Plan Tracking Log Summary (Appendix A continued)

Task Name	*Start*	*End*	*Tracking Status*	*Working Status*	*Responsible Organization*
1.4 Wildfire	10/21/99	9/29/00	Added 4 months (fire-related)	Complete	LANL ESH-20
1.4.1 Comprehensive Wildfire Mitigation Preliminary Plan	10/21/99	12/31/99	Complete	Complete	LANL ESH-20
1.4.2 Programmatic Environmental Assessment for Proposed Action	11/10/99	8/15/00	Restarted; Added 5 months (fire-related)	Complete	LANL ESH-20
1.4.3 Phase II Wildfire Mitigation	7/14/00	9/29/00	Minor scope modification (fire-related)	Complete[1]	LANL ESH-20
2.0 Existing Program Enhancements	7/30/99	09/30/07	Complete	Ongoing	LANL ESH-20
2.1 Cultural Resources	11/29/99	09/31/05	Complete	Ongoing	LANL ESH-20
2.1.1 Verification of Past Surveys	11/29/99	01/28/00	Complete	Complete	LANL ESH-20
2.1.2 Integrated Cultural Resources Management Plan (ICRMP)	11/29/99	09/31/05	Complete	Complete	LANL ESH-20
2.1.2.1 Annotated Outline	4/3/00	6/30/00	Complete	Complete	LANL ESH-20
2.1.2.2 Draft ICRMP	6/30/00	12/31/04	Complete	Complete	LANL ESH-20
2.1.2.3 Archaeological Component of ICRMP	12/31/01	09/31/05	Complete	Complete	LANL ESH-20
2.1.2.4 Historical Component of ICRMP	1/31/02	09/31/05	Complete	Complete	LANL ESH-20
2.1.2.5 Standard Operating Procedures	10/11/01	09/31/05	Complete	Complete	LANL ESH-20
2.1.2.6 Final ICRMP	1/8/02	12/31/05	Complete	Complete	LANL ESH-20
2.1.2.7 Implement ICRMP	12/31/02	12/31/05	Added 6 months (MOA-related)	Complete	LANL ESH-20
2.1.2.8 Negotiate Programmatic MOA with State Historic Preservation Office	7/16/02	Ongoing	Moved (MOA-related)	NA	LANL ESH-20

1. *This action was superseded by forest thinning in the aftermath of the Cerro Grande Fire. Over 9,000 acres of forest and woodland have been thinned to mitigate wildfire risk to the Laboratory.*

Mitigation Action Plan Tracking Log Summary (Appendix A continued)

Task Name	*Start*	*End*	*Tracking Status*	*Working Status*	*Responsible Organization*
2.2 Traditional Cultural Properties	7/30/99	8/29/02	Complete	Ongoing	LANL ESH-20
2.2.1 DOE Preliminary Consultations with Native American Tribes and Organizations	7/30/99	8/30/99	Complete	Complete	DOE LASO
2.2.2 Strategy for Consultation	7/30/99	8/29/02	Complete	Complete	LANL ESH-20
2.2.2.1 Strategy Document (Annotated Outline)	7/30/99	12/31/99	Complete	Complete	LANL ESH-20
2.2.2.2A Preliminary Comprehensive Plan for DOE Review	12/13/99	3/31/00	Complete	Complete	LANL ESH-20
2.2.2.2B Draft Comprehensive Plan	4/3/00	6/30/00	Complete	Complete	LANL ESH-20
2.2.2.3 DOE Consults with Native Americans on Draft Strategy	7/3/00	6/28/01	TCP issues will be addressed on a case by case basis.	TCP issues will be addressed on a case by case basis.	DOE LASO
2.2.2.4 Preliminary Draft MOA Template (one per Tribe)	9/1/00	4/26/01	TCP issues will be addressed on a case by case basis.	TCP issues will be addressed on a case by case basis.	LANL ESH-20
2.2.2.5 DOE Consults with Native Americans on Draft MOAs	6/29/01	12/20/01	TCP issues will be addressed on a case by case basis.	TCP issues will be addressed on a case by case basis.	LANL ESH-20

Mitigation Action Plan Tracking Log Summary (Appendix A continued)

Task Name	*Start*	*End*	*Tracking Status*	*Working Status*	*Responsible Organization*
2.2.2.6 LANL Prepare Final Comprehensive Plan	4/27/01	6/28/01	Indefinitely delayed	Delay due to tribal sensitivity over sacred sites	LANL ESH-20
2.2.2.7 DOE/LANL MOA (Access Agreements)	12/21/01	8/29/02	Complete	Complete	LANL ESH-20
2.3 Integrated Resources Management	10/29/99	10/31/02	Complete	Complete	LANL ESH-20
2.3.1 Establish Planning, Management, and Review Team (PMRT)	10/29/99	10/29/99	Complete	Complete	LANL ESH-20
2.3.2 Work Plan for Development of Integrated Resources Management Plan (IRMP)	12/31/99	12/31/99	Complete	Complete	LANL ESH-20
2.3.3 Preliminary Draft IRMP to the PMRT	1/3/00	4/30/01	Complete	Complete	LANL ESH-20
2.3.4 DOE Coordinate First Formal Stakeholder Review	5/1/01	6/20/01	Complete	Complete	DOE LASO
2.3.5 Incorporate Stakeholder Comments	10/1/01	12/28/01	Complete	Task Eliminated	LANL ESH-20
2.3.6 DOE Coordinate Second Formal Stakeholder Review	12/31/01	2/28/02	Complete	Task Eliminated	DOE LASO
2.3.7 Final IRMP to PRMT with Implementation Strategy	12/31/01	4/25/02	Complete	Complete	LANL ESH-20
2.3.8 LANL Implements IRMP	4/26/02	10/31/02	Complete	Complete	LANL ESH-20

Mitigation Action Plan Tracking Log Summary (Appendix A continued)

Task Name	*Start*	*End*	*Tracking Status*	*Working Status*	*Responsible Organization*
3.0 MAP Monitoring and Reporting 2000	**11/29/99**	**9/29/00**	**Complete**	**Complete**	LANL ESH-20
3.1 FY00 Annual Report	11/29/99	9/29/00	Complete	2000 MAP Annual Report Complete	LANL ESH-20
3.2 FY01 Annual Report	10/01/00	9/28/01	Complete	2001 MAP Annual Report Complete	LANL ESH-20
3.3 FY02 Annual Report	10/01/01	9/29/02	Complete	2002 MAP Annual Report Complete	LANL ESH-20
3.4 FY07 Annual Report (FY 2005 and 2006 Data combined)	10/01/02	9/28/07	Complete	2007 MAP Annual Report Completed[2]	LANL ENV-RRO

[2] The FY07 Annual Report provides details and documents that all mitigation action plan tasks were completed between FY00 and FY07.